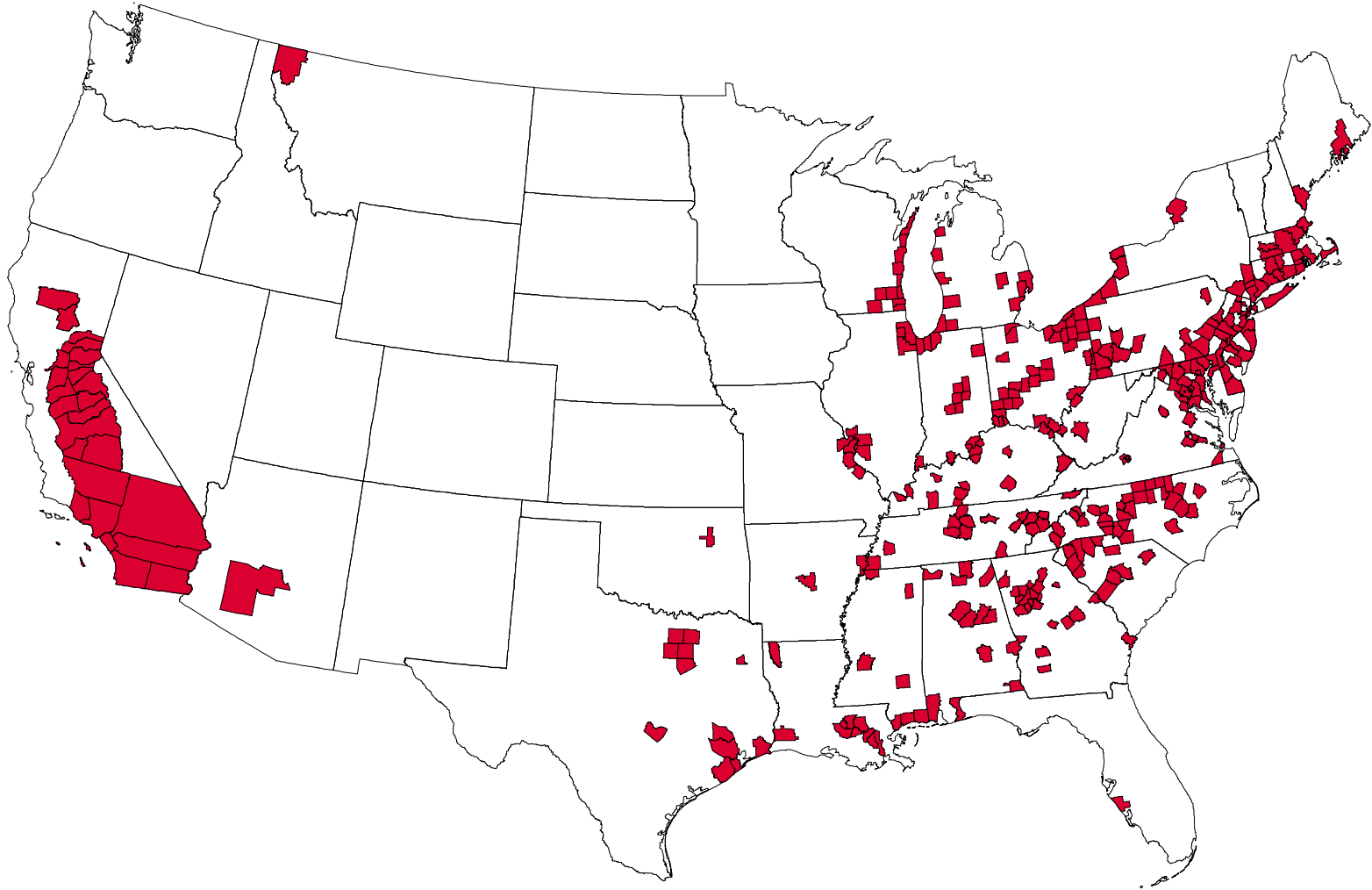


# Counties Currently Violating Fine Particle (PM<sub>2.5</sub>) and/or Ozone Standards (based on 1999-2001 data)

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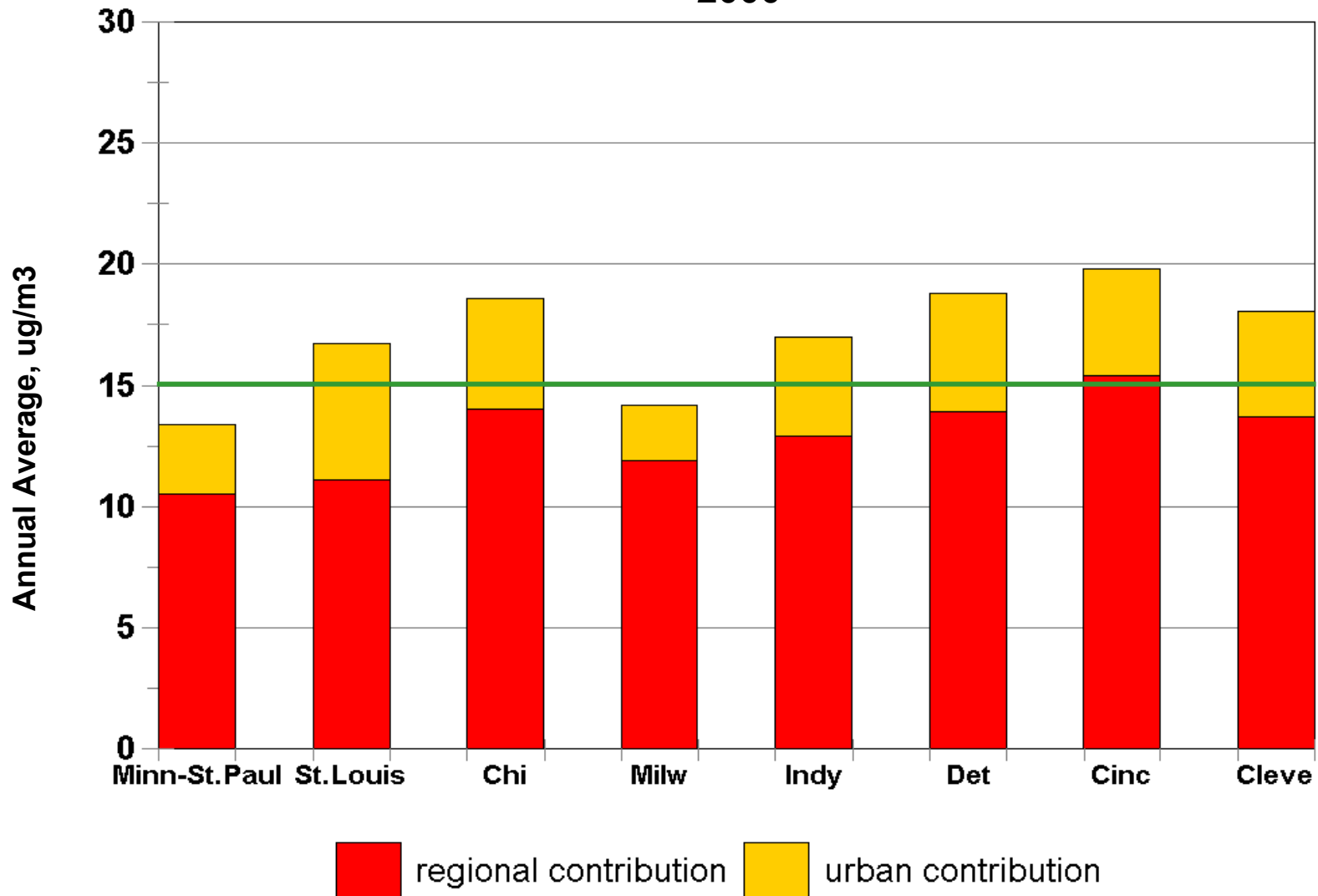


Note: No violating counties in AK, HI, PR, or VI

# Regional Air Pollution is a Problem

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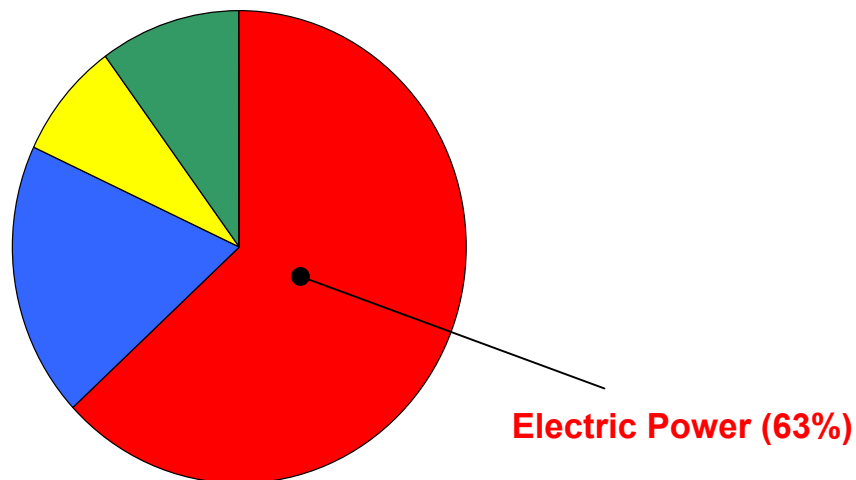
Urban v. Regional Contribution to Fine Particle Concentrations  
2000



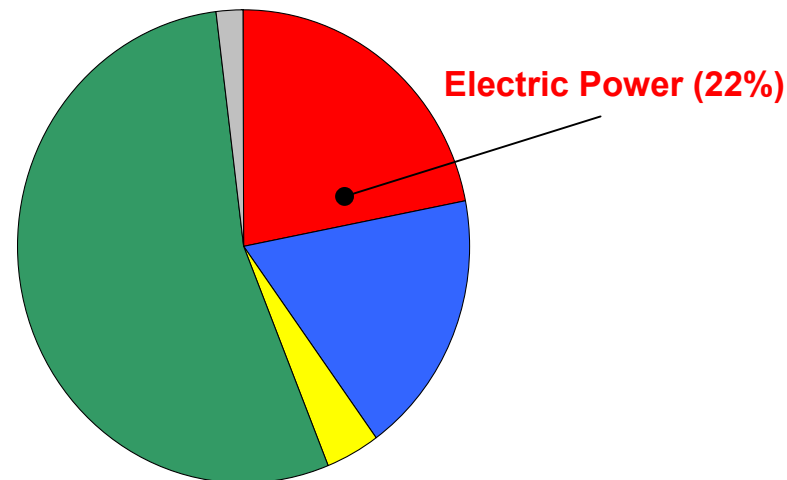
# Power Plants are Significant Contributors to Public Health and Environmental Challenges

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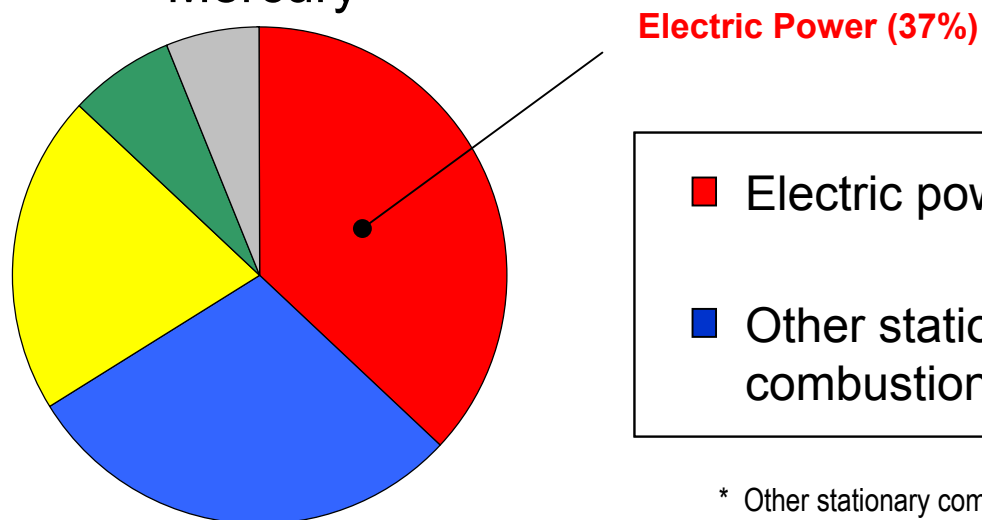
Sulfur Dioxide



Nitrogen Oxides



Mercury



■ Electric power

■ Industrial Processing

■ Other stationary combustion \*

■ Transportation

■ Miscellaneous

\* Other stationary combustion includes residential and commercial sources.

# Power Plants Would Face a Complex Set of Requirements Under Current Clean Air Act

## NSR Permits for new sources & modifications that increase emissions

### Ozone

1-hr Serious Area Attainment Date

OTC NO<sub>x</sub> Trading

NO<sub>x</sub> SIPs Due

Designate areas for 8-hr Ozone NAAQS

1-hr Severe Area Attainment Date  
NO<sub>x</sub> SIP Call Reductions

Marginal 8-hr Ozone NAAQS Attainment Date

8-hr Ozone Attainment Demonstration SIPs due

Assess Effectiveness of Regional Ozone Strategies

Possible Regional NO<sub>x</sub> Reductions ? (SIP call II)<sup>1</sup>

Moderate 8-hr Ozone NAAQS Attainment Date

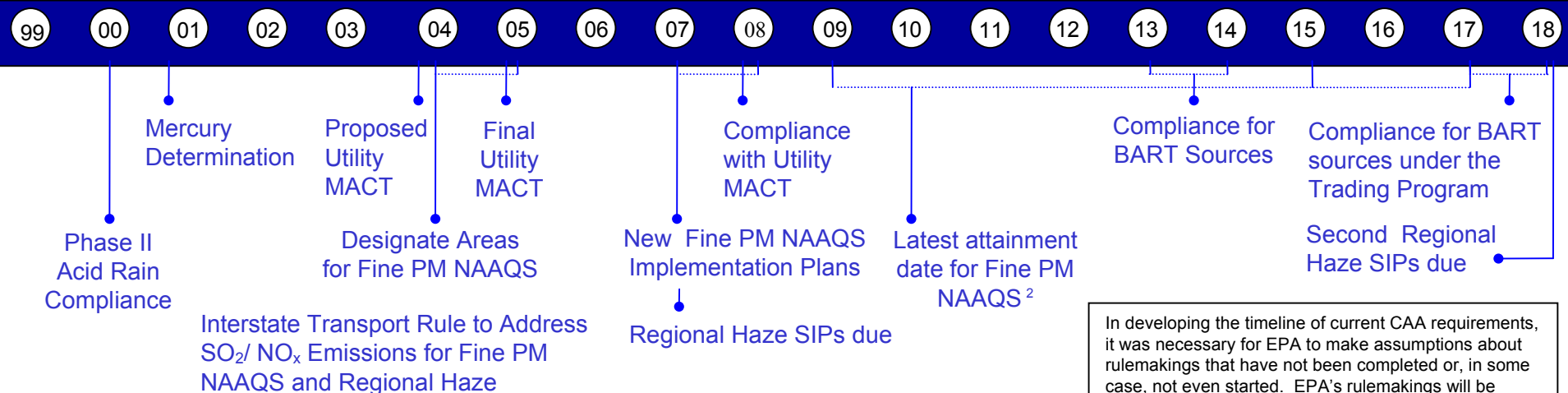
**Note:** Dotted lines indicate a range of possible dates.

<sup>1</sup> Further action on ozone would be considered based on the 2007 assessment.

<sup>2</sup> The SIP-submittal and attainment dates are keyed off the date of designation; for example, if PM or ozone are designated in 2004, the first attainment date is 2009

EPA is required to update the new source performance standards (NSPS) for boilers and turbines every 8 years

Serious 8-hr Ozone NAAQS attainment Date



### Acid Rain, PM<sub>2.5</sub>, Haze, Toxics

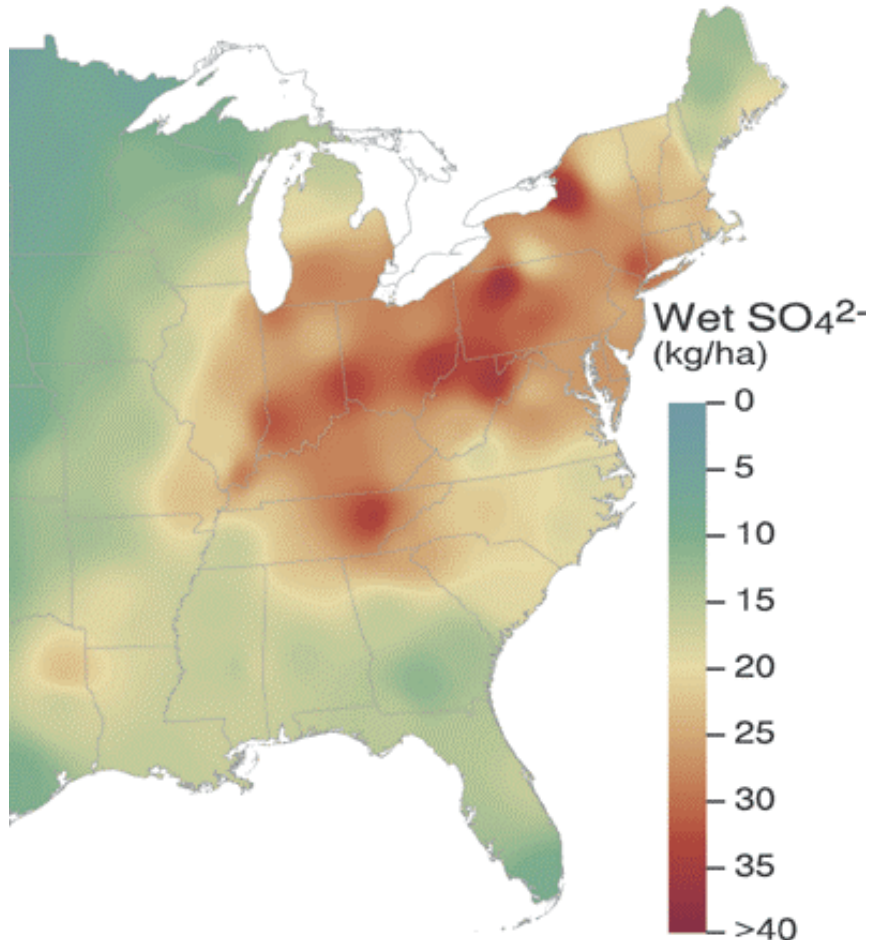
In developing the timeline of current CAA requirements, it was necessary for EPA to make assumptions about rulemakings that have not been completed or, in some case, not even started. EPA's rulemakings will be conducted through the usual notice-and-comment process, and the conclusions may vary from these assumptions.

# Building on Lessons Learned: Reductions in Acid Rain

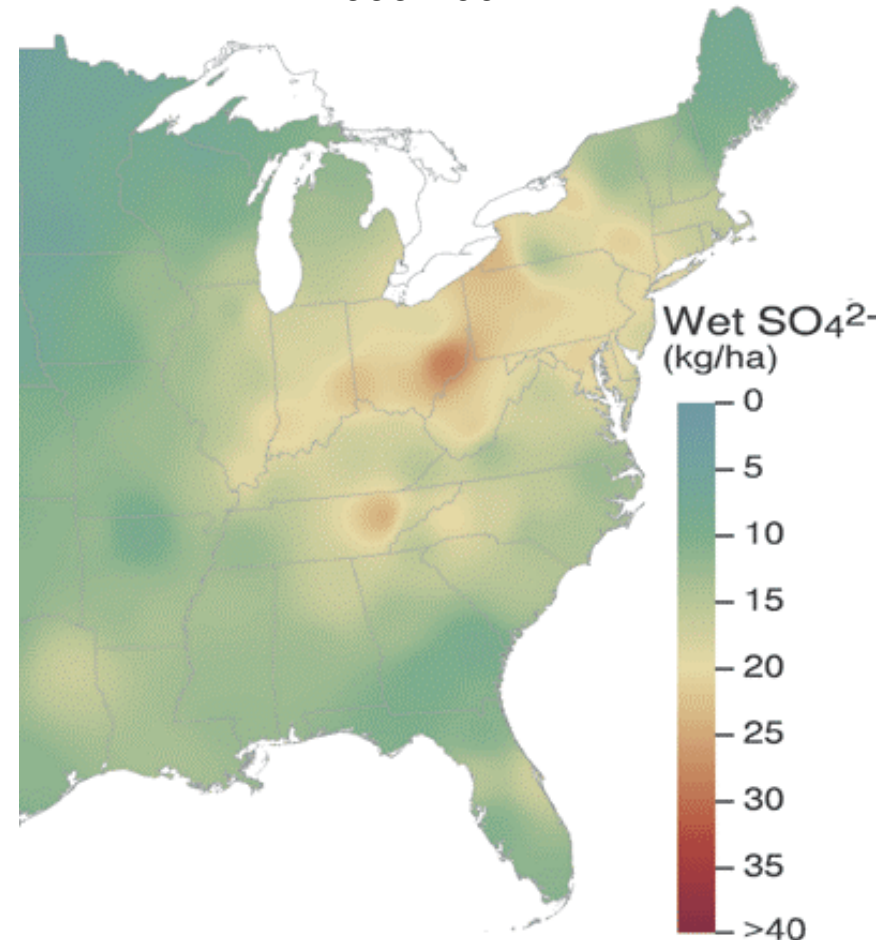
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## Monitored Reductions in Wet Sulfate Deposition Under the Acid Rain Program

1989-1991

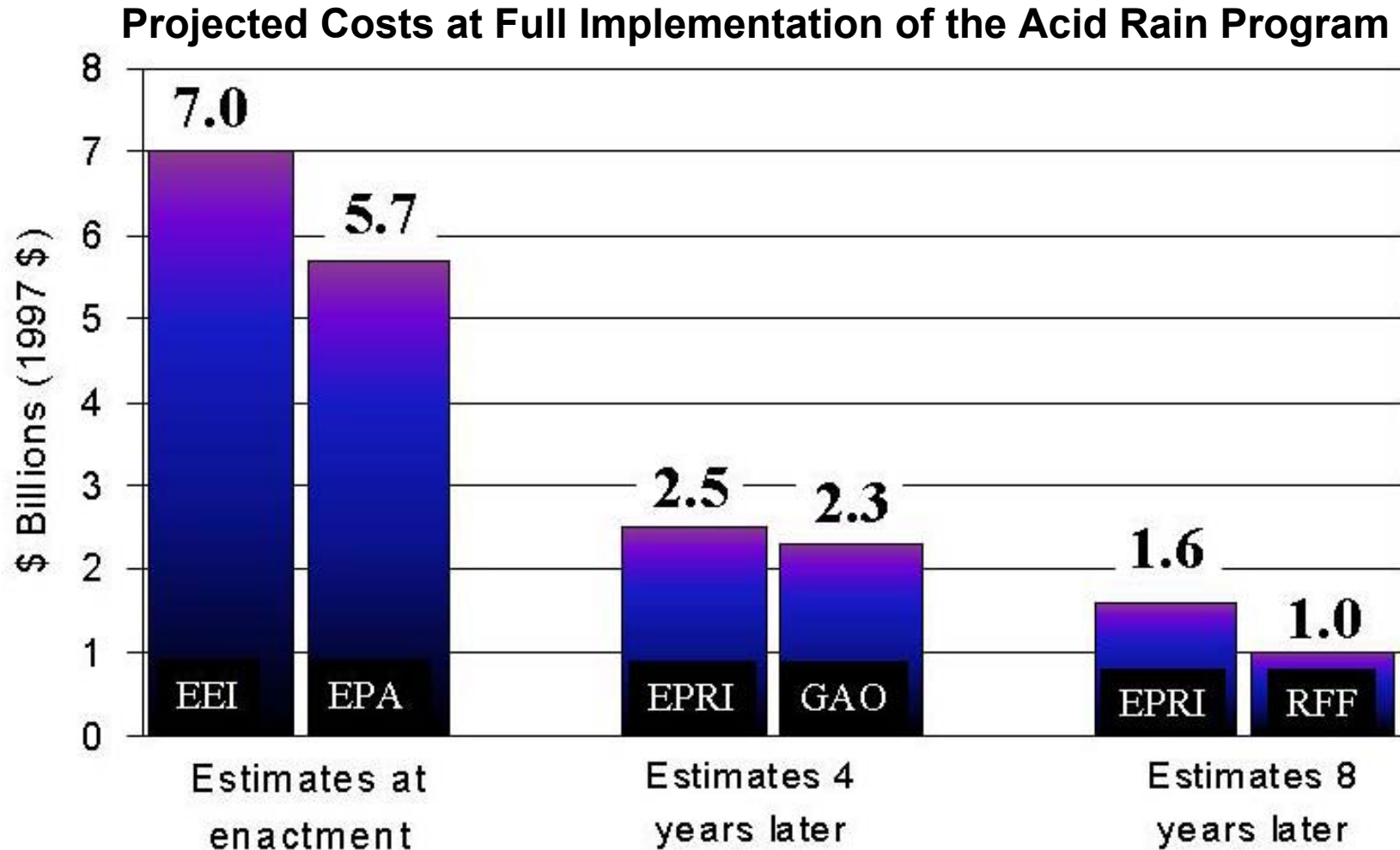


1999-2001



# Building on Lessons Learned: Costs Lower than Expected

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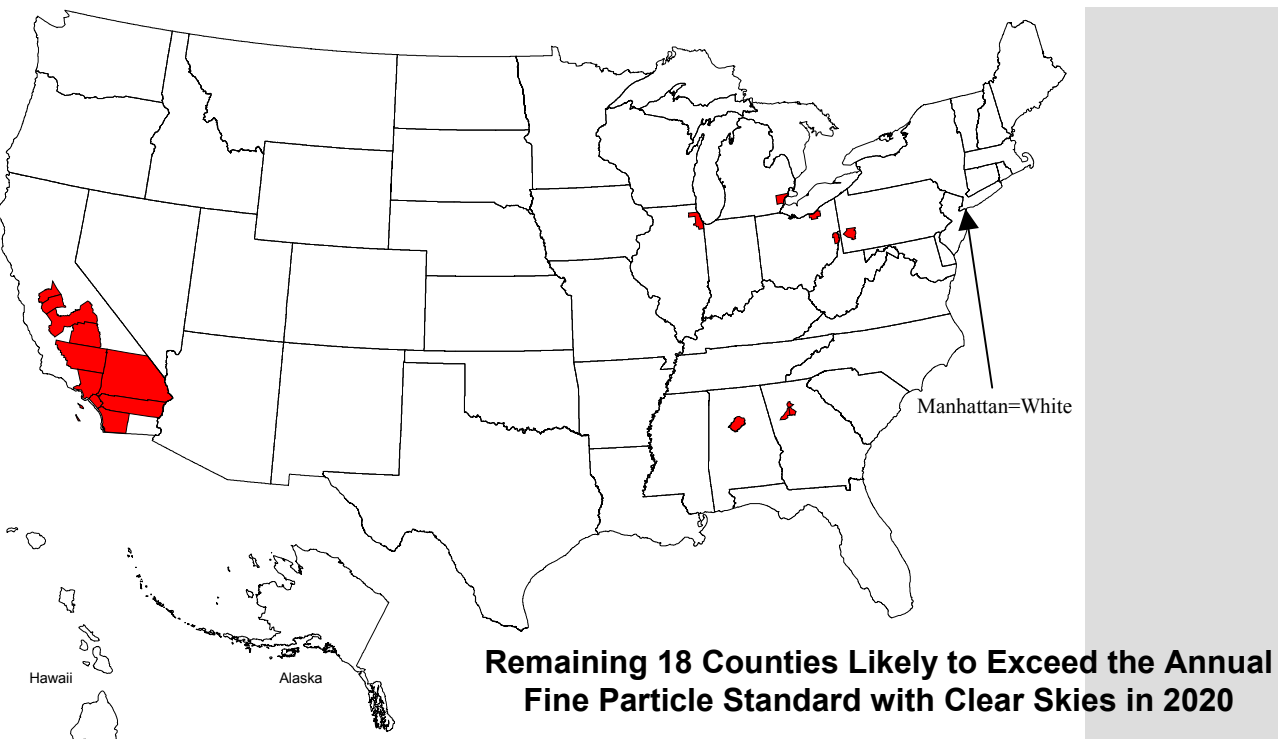
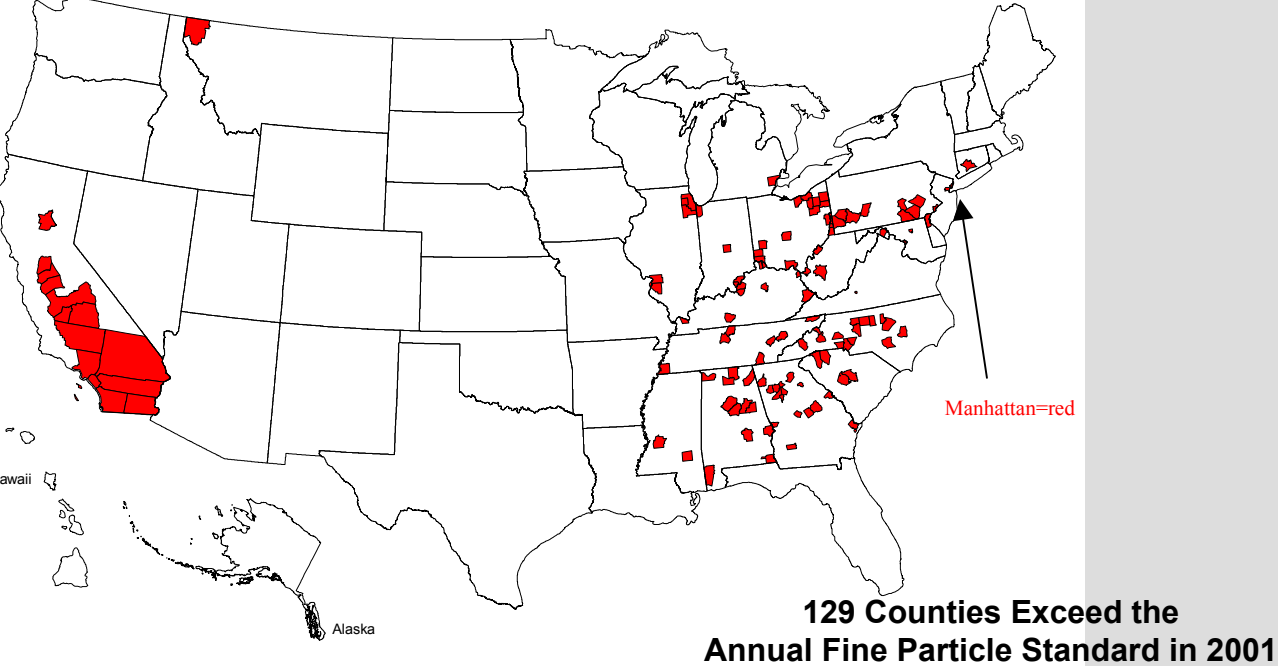
**75% Lower than 1990 Projections**

# Clear Skies Act: Caps and Timing

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	Emissions (2000)	Phase 1 Cap	Phase 2 Cap	Total Reductions at Full Implementation
<b>Sulfur Dioxide</b> (tons)	11 million	4.5 million (2010)	3 million (2018)	73%
<b>Nitrogen Oxides</b> (tons)	5 million	2.1 million (2008)	1.7 million (2018)	67%
<b>Mercury</b> (tons)	48	26 (2010)	15 (2018)	69%

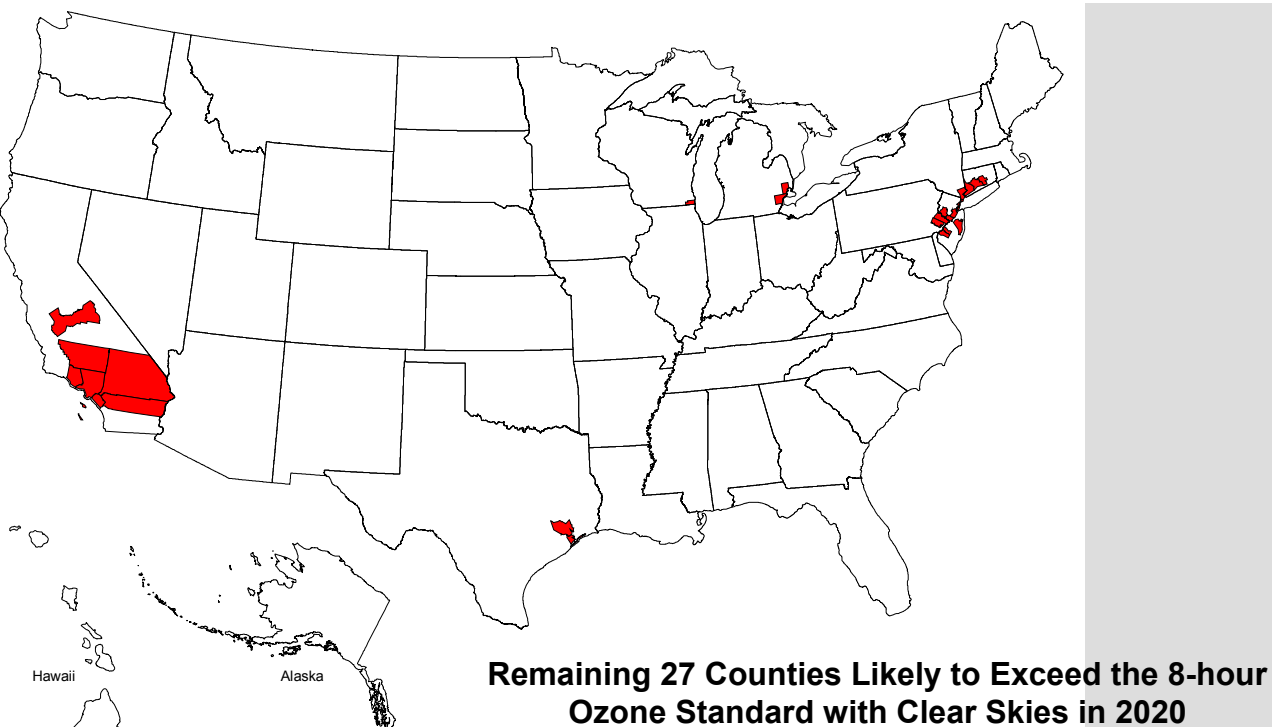
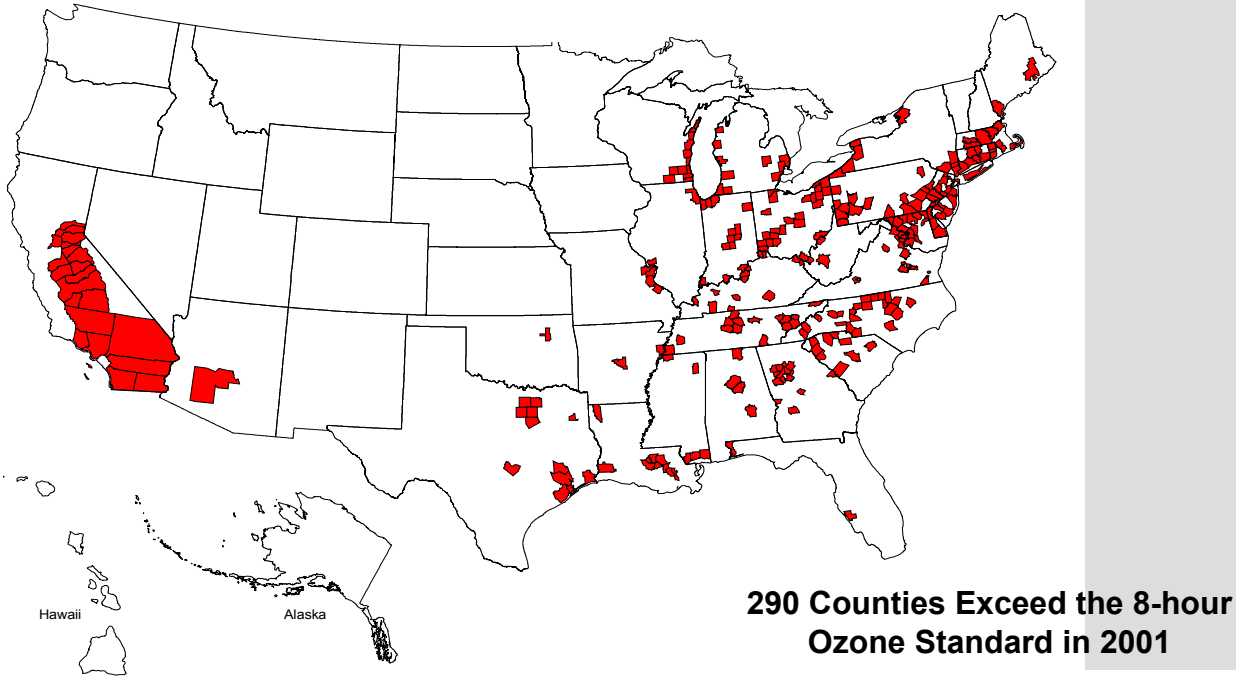
# Clear Skies with Other Air Programs Would Substantially Improve Fine Particle Attainment over the Next Two Decades



PM2.5 standard = 15  $\mu\text{g}/\text{m}^3$



# Clear Skies with Other Air Programs Would Substantially Improve Ozone Attainment over the Next Two Decades

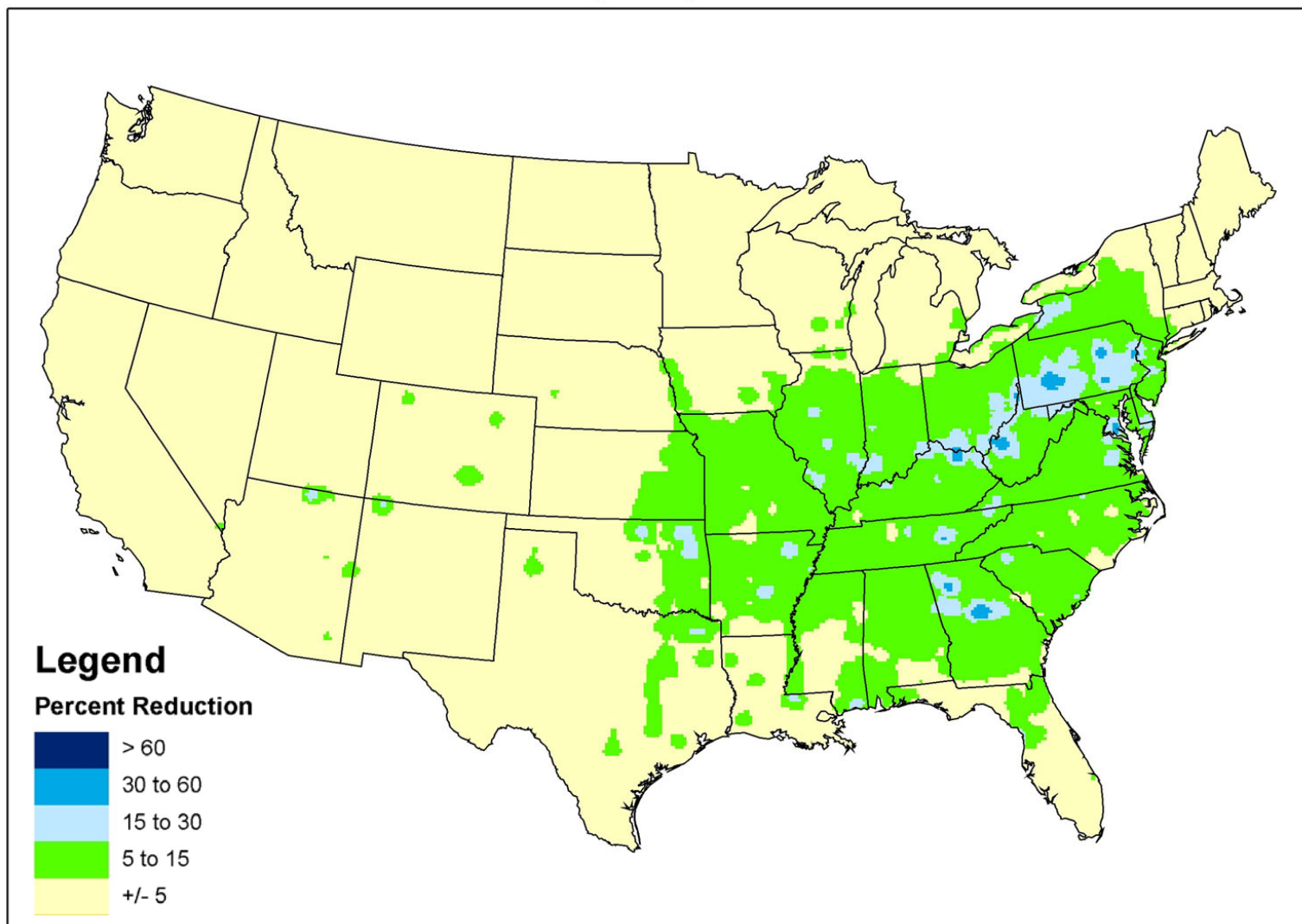


8-hour Ozone Standard = 85 ppb

# Clear Skies Reduces Mercury Deposition

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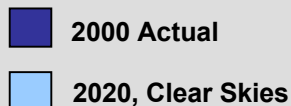
## Projected Changes in Mercury Deposition with Clear Skies in 2020



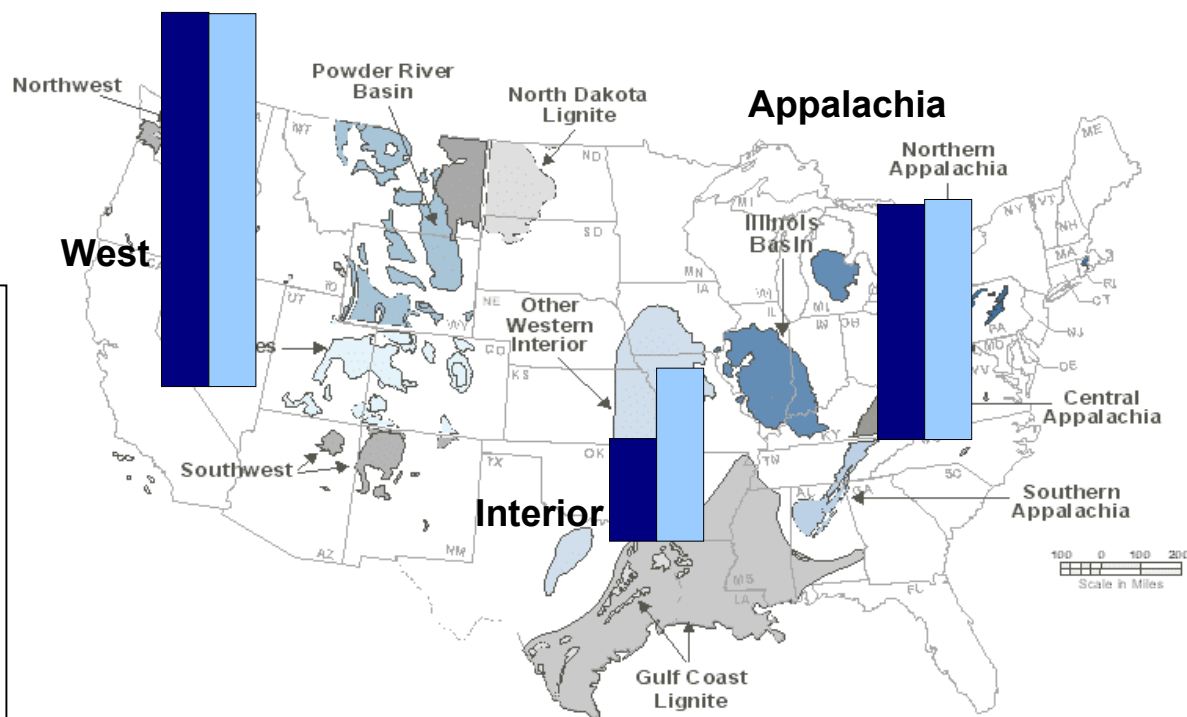
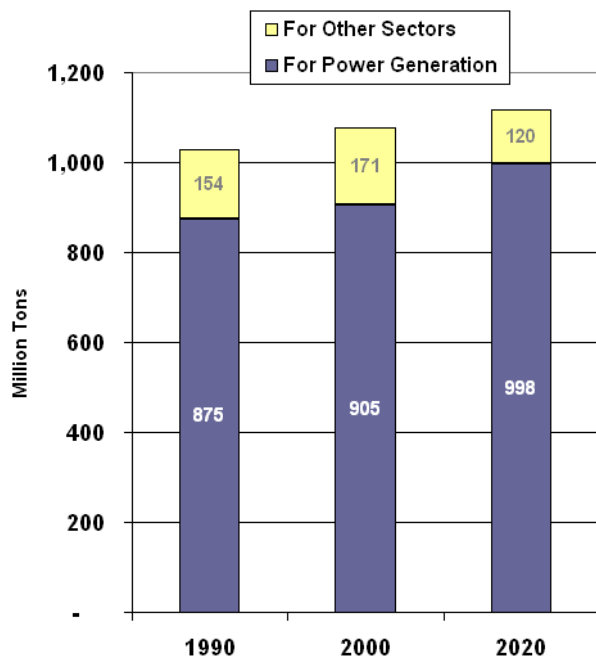
\* Reductions are compared to EPA's Base Case

# Coal Production for Electricity Generation in 1990 and 2000 and Projected Production with Clear Skies in 2020

## Coal Production for the Power Sector



Coal Production in 1990, 2000, and Projected with Clear Skies in 2020



Note: The analysis presented represents EPA's estimates. EIA's modeling would likely show different impacts.

# Benefits Begin Immediately Under Clear Skies

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Benefit Category	Annual Avoided Cases in 2010
Premature mortality (Alternative estimate)	7,900 (4,700)
Chronic bronchitis	5,400
Hospitalization/ER visits	17,000
Non-fatal heart attacks	13,000